FRAGRANCE-EMITTING CONTAINER

This is a continuation-in-part of my U.S. patent application No. 07/666,872, filed Mar. 8, 1991 and now U.S. Pat. No. 5,165,603.

BACKGROUND OF THE INVENTION

Many substances are applied to the skin of humans or animals in order to alter the appearance of the skin or other tissue or body part, to protect the skin from the environment, or to produce a biological change in the skin for therapeutic purposes. These substances are generically termed "skin care products" and may be in the form of solids, liquids, suspensions, semisolids in the form of creams, gels or pastes, powders or finely dispersed liquids in the form of a spray or mist. In all cases, these products contain chemicals which may produce irritation or inflammation when applied to the skin.

The magnitude of skin care product-induced irritation may range from mild to severe and may be accompanied by subjective sensations which include stinging, burning, itching and tingling. Objective signs of irritation, if present, may include erythema (redness), edema (swelling), exudation (weeping), blistering or fissuring of the skin. The irritation response may be due to the direct effect of certain chemicals in skin products on the skin or to a response by the immune system directed toward the chemicals in combination with skin components (e.g., allergic contact dermatitis).

Whatever the exact cause of irritation, many attempts have been made to reduce the irritation potential of skin care products by identifying chemicals which tend to cause irritation and eliminating them from products. Many of these products are advertised to consumers as "hypoallergenic" to designate the product's reduced tendency to cause irritation in consumers with sensitive skin.

Among the many substances which frequently cause irritation, chemicals used for their perceived fragrance ("fragrances") have been found to be among the most frequent irritants. Based on these findings, products advertised as "hypoallergenic" or for "sensitive skin" are often labeled "fragrance-free" to represent their lack of potentially irritating fragrance chemicals.

It is well known that humans value pleasant-smelling fragrances as evidenced by their frequent use by both men and women. Consumers spend billions of dollars per year to purchase perfumes, colognes, air fresheners and other scented products which produce desirable fragrances. The fact that many skin care products continue to be sold which contain fragrances even though fragrance chemicals may produce irritation, attests to the value placed on fragrances.

Beyond the subjective enjoyment produced by pleasant fragrances, there may be additional value to sensing pleasant fragrances. For example, the concept of "aromatherapy" suggests that exposure to certain fragrances may produce beneficial psychological and physiological responses such as stress reduction due to activation of brain centers (e.g., the limbic system) which are especially responsive to fragrances.

Consumers with sensitive skin who must use hypoallergenic, fragrance-free skin care products do not derive the enjoyment and potential benefit of pleasant fragrances in skin care products.

The apparent strength or intensity of a fragrance is dependent on the length of time the fragrance is inhaled. This phenomenon is termed "odor adaptation" or "olfactory fatigue". Upon initial exposure to a fragrance, the perceived intensity is maximum. After several minutes of exposure, the perceived intensity is substantially reduced, due to diminished sensitivity of the fragrance-sensing olfactory receptor cells and higher brain olfactory centers. After several additional minutes, many people are not able to detect the fragrance on themselves, especially if it was applied in close proximity to the nose.

With the exception of perfumes, colognes and other products having the primary purpose of emitting a fragrance, most skin care products usually contain a relatively low amount of fragrance-producing chemicals which are intended to produce a "low intensity" fragrance. Upon application of such scented products, the consumer is likely to perceive the fragrance for only a short period of time, frequently only during the time period during which the product is applied to the skin. This observation suggests that most of the "fragrance benefit" obtained by a consumer using scented skin care products is of several minutes duration, after which the average consumer is usually not aware of the continuing presence of the fragrance on their skin. The fragrance-producing chemicals, by contrast, continue to interact with the skin until they are washed off during which time irritation may occur.

In addition to fragrances, humans and animals may enjoy and benefit from inhaling volatile substances which may not have a detectable scent, but which nonethe-less produce a distinct biological or psychological effect. These substances include, but are not limited to pheromones which may alter the sexual behavior of humans or animals, hormones which may alter the physiology of the body, mood-altering substances, appetite-altering substances, organ extracts, plant extracts or other materials or chemicals which provide a desired biological or psychological effect.

In addition to fragrances which may benefit humans or animals directly, certain volatile chemicals may benefit humans or animals indirectly by their effect on insects, animals or other living organisms. For example, substances which repel insects or animals are very useful for many purposes. The use of the terms "fragrance" or "fragrance chemicals" herein includes all of the aforementioned substances as well.

The many beneficial effects or fragrances occur when relatively small quantities of their volatile chemical components are sensed by humans, animals or other living organisms. By contrast, direct physical contact or ingestion of the concentrated fragrance chemicals by a living organism may produce undesired and potentially toxic effects. Similarly, if fragrance chemicals physically contact inanimate objects, untoward or damaging effects may occur due the chemical reactivity of the fragrance chemicals.

It is well known, for example, that fragrances in skin care products can produce irritation and allergic reactions in many people. Similarly, insect repellents which are applied to the skin of humans or animals can produce systemic toxic reactions. Fragrance chemicals may also stain clothes or may chemically react with fabrics or other materials. In other applications, it may be impractical to expose the contents of a container to fragrances, for example, in waste containers.

It is also a object of the present invention to provide products and methods which will provide the benefits of the volatile components of fragrance chemicals while